UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

147422

DATE:

SUBJECT: Field Observations for Gomel Dubilier

FROM: Christopher Stitt, Environmental Scientist
Surveillance and Monitoring Branch (ESD-SMB)

TO: File

On April 22, 1996, a field visit was conducted for the Cornell Dubilier Electronics site located in South Plainfield, Middlesex County, New Jersey. Field conditions were overcast, slightly hazy, calm, and warm. The site visit was conducted to support a screening level ecological risk assessment requested by ERRD-RAB. Initial ecological concerns at the site centered on the contamination of the stream sediments from historical site activities and potential ongoing uncontrolled releases. The limited data available from previous sampling results were reviewed prior to the field visit. Samples from the stream chamel adjacent to the site revealed elevated levels (in terms of the Persaud values) of Aroclor-1254, cadmium, copper, lead, manganese, benzo(g,h,i)perylene, chrysene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene in stream sediments (exceeding SELs, 1% TOC assumed where appropriate); elevated levels of Aroclor-1248 and -1254 (AWQC chronic, no acute available), cadmium, copper, lead, and zinc (AWQC acute, unadjusted) for surface water. Contaminants in surface soil on the site are elevated, but may not be a direct ecological threat due to the nature of the current site use (i.e., actively utilized truck driving school), but would appear to be a concem as a source to the stream. A random wander along accessible areas of the stream corridor was conducted; approximately three (3) hours of observation tune were expended.

The area investigated during this visit consisted of the habitat associated with the stream adjacent to the site, an unnamed tributary to the Bound Brook. Bound Brook is part of the Raritan River watershed; mnoff from the site reaches the Raritan River roughly 4 miles downstream. The observations of the stream adjacent to the site were gathered from a distance rather than on-site or along the stream due to the extremely elevated concentrations (in terms of human health and safety) and undefined extent of the contamination and the restricted access of the adjacent private property to the east (active rail yard); the stream corridor directly adjacent to the site was not viewed in its entirety (i.e., observations are based on viewing from the safest positions that could be reached from upstream, downstream, and adjacent). Observations of the stream corridor habitat upstream and downstream of the site were made by walking along the upper edge of the floodplain; however, actual entrance onto the floodplain was avoided to the extent practical due to health and safety concerns.

Upstream of the site, the stream flows through what appears (from limited observation and desk-top reference material (SCS, USGS)) to be a broad complex of forested, scrub-shmb, and emergent wetland with inclusions of old field/floodplain. Access into the area was along a utility (pipeline) right of way running roughly east-west and crossing the

south end of Metuchen Road (just west of the borough boundary). Stream flow was low to moderate, with a channel width of approximately 10 feet and a depth of approximately 1-2 feet. The stream channel alternated from being filled with emergents to slow, open runs. The substrate appeared to be mucky. The east bank was forested and the west bank climbed a low rise to a grassy old field with scattered scmb-shmb clumps and isolated trees. Identified vegetation in the area included red maple, red and pin oaks, tulip tree, sweet gum, cherries (spp.), willows (spp.), multiflora rose, mayapple, Canada mayflower, skunk cabbage, iris (sp.), milkweed (sp.), purple loosestrife, cattail (sp.), and water lily (sp.). Avian wildlife observed utilizing the area included Coopers hawk (hunting), American robin, red-winged blackbird, red-tailed hawk (hunting), mfous-sided towhee, northern cardinal, blue jay, crow (sp.), turkey vulture, northern mockingbird, tufted titmouse, and American goldfinch. Mammal and herptile wildlife observed included eastern gray squirrel, raccoon (prints), and frog(s) (sp./spp.). As the stream flows north toward the site and the more developed area of South Plainfield, the wetland complex narrows considerably around the stream channel and gives way to a grassy floodplain interspersed with scmb-slmıb clumps and narrow forest strips. The stream passes through a narrow area between the active rail yard and some residential/commercial property before opening up again just upstream of the site.

Adjacent to the site, the stream passes under an abandoned railroad spur through two large (approximately 6 foot) concrete culverts, hereinafter referred to as the west and the east culvert. The west culvert appears to accept the main channel flow, with a portion of the flow forking just upstream of the culverts to flow through the east culvert; a rough estimate would be a - split. The fork occurs immediately upstream of the berm for the abandoned railroad spur, with the channels rejoining approximately fifty feet downstream of the culverts. The stream channel upstream of the culverts ranged from 10 to 20 feet in width and 2 to 3 feet in depth, with a moderate flow through a slightly meandering mn. The stream banks ranged from 1 to 3 feet in height, with scattered vegetated mud flats. The substrate in the stream channel appeared to be mainly cobble with some sand and gravel, and mucky inclusions. The area upstream of the culvert is relatively open, with a narrow (ranging approxiinately 25-200 feet) forest/scmb-shmb strip along the east bank that transitions up a slight slope to the uplands along the rail line. The west bank of the stream above the culverts is a broad (approximately 50-200 feet) floodplain with grasses and isolated scmb-shmb clumps. Downstream of the west culvert, a large (20 foot by 30 foot oval), relatively deep (depth unknown) pool formed, with a large snag creating a constriction at the outlet. A short (10 to 20 feet) riffle flowed from the constriction to the confluence with the east culvert channel. The stream downstream of the east culvert mimics the west culvert channel, (i.e., pool, constriction, riffle), but appears to be on a smaller scale overall. A small, herbaceously vegetated floodplain or backwater forms the east bank of the stream below the east culvert. A narrow, forested floodplain exists along the west bank of the stream below the confluence of the two culvert channels, before the stream banks encroach up to the stream channel. Vegetation in the area included pin oak, red maple, white oak, tree and shmb willows (spp.), oaks (spp.), ash (sp.), gray birch, sassafras, black cherry, apple (sp.), multiflora rose, viburnums (sp.), arrowwood (sp.), dogwoods (sp.), sumac (sp.), common greenbriar, poison ivy, Japanese honeysuckle, Japanese knotweed, skunk cabbage, onion grass, common reed grass (phragmites), Canada mayflower, mayapple, sensitive fern, cinnamon fern, spring beauty, rose mallow (sp.), milkweed (sp.), iris (sp.), and grasses. Avian wildlife activity was heavy in the floodplain and stream channel with occasional

mammals and herptiles. Birds sighted utilizing the habitat above and below the culverts included Canada goose, American robin, red-winged blackbird, mourning dove, common grackle, blue jay, European starling, white-throated sparrow, song sparrow, crow (sp.), rock dove, swallow (sp.), and northern mockingbird. Mammal and herptile sightings and sign in the area included domestic cat, eastern cottontail, eastern gray squirrel, raccoon (prints), possibly woodchuck (many large, apparently active burrow openings in the berm of the abandoned railway spur), and frog(s) (sp./spp.; possibly including bullfrogs due to the large size of some individuals).

From the observations that could be made of the stream adjacent to the site, it appears that the stream tapers down from having a narrow floodplain to no floodplain (30 feet down to 0) and having high (approximately 5-10 foot), steep banks, a narrow, relatively straight channel with mns and riffles, and possibly a cobble-gravel bottom. There is some tree and slmıb cover on the banks (consisting of specimens of the species previously referenced), providing overhang and shade for most of the reach along the site. The stream appears to exit the site through a culvert under a very active freight/commuter railroad track that crosses perpendiculai to the previously referenced rail yard. At the outlet of the culvert, a second culvert adds additional flow to the stream. The downstream habitat in this area appears to be similar to the stream adjacent to the site, with high banks and a cobble-gravel bottom. However, the stream channel is wider; approximately 20 feet rather than 5 to 10 feet, and flow is moderate. The areas adjacent to and immediately downstream of the site are very developed. Avian activity was very reduced; however, a woodchuck was sited on the stream bank on the site proper, and fish were in the riffle at the downstream culvert outfall. The fish were 8 to 14 inches in length and fairly numerous (at least one dozen). They appeared to have been white suckers, and their behavior (small, tight groups thrashing in the riffle) may have indicated breeding.

Further downstream from the site, the stream flows along a park (adjoining municipal and county parks). Adjacent to the park, a small check dam impounds the stream. The park is partially developed (recreation fields and facilities - municipal park), but includes large expanses of lawn and a few mature trees. Downstream of the dam, the stream is approximately 10 feet wide and 1 to 2 feet deep, with a sand and gravel bottom. The stream banks are vegetated with overhanging scmb-shmb throughout most of this area. Below the dam and the park, the stream floodplain widens into a relatively broad old field with small inclusions of scmb-shmb and forest. While this large floodplain/old field appears to be a part of the park (county park), and contains some 'nature trails' through it, it does not appear to be subject to extensive disturbance or maintenance. Along the area that the park transitions into the floodplain/old field, the stream passes through a small wetland complex including forested and scmb-shmb wetlands, and a large oxbow that appears to still drain into the stream. The Bound Brook tributary draining Spring Lake confluences with the stream in the floodplain/old field downstream of the oxbow. Vegetation along the stream and in the floodplain/old field included red maple, willow (sp.), oak (spp.), multiflora rose, dogwood (spp.), arrowwood (sp.), spring beauty, goldenrod(s) (sp./spp.), water lily (sp.), brambles (sp.), and grasses. Avian

wildlife sighted utilizing the habitat included blue jay, crow (sp.), Canada goose (nesting along the oxbow), American robin, killdeer, mourning dove, European starling, northern cardinal, domestic geese, great blue heron, red-tailed hawk (a pair, calling frequently, flushed from trees by a mob of crows), downy woodpecker, mallard, and common flicker. Mammal and herptile species observed along the stream or by sign included eastern cottontail, eastern gray squirrel, and eastern painted turtle (oxbow). What appeared to be white suckers approximately 8 to 12 inches long were also observed in this reach of the stream.